

CLAIMS

*Sub B2*

A system to detect and reward the return of shopping carts to the collection points provided for them at a shopping center, with a number of shopping carts (3), with at least one collection point (1) for shopping carts and with detection means (5, 6, 8, 10) to generate a signal for issuance of a bonus when a shopping cart (3) is returned to the collection point (1), characterized in that the detection means (5, 6, 8, 10) determines whether the returned shopping cart (3) has been stored in the stacked row of shopping carts (2) provided at the collection point (1) within a prescribed tolerance.

2. A system according to claim 1, characterized in that the detection means include a digital image-processing camera.

3. A system according to claim 2, characterized in that the camera is located above the stacked row (2) of the shopping carts stored in the collection point (1) and is programmed to recognize the handlebar of the shopping cart (3) as well as a distance and/or a parallel positioning.

4. A system according to one of claims 2 or 3, characterized in that

the camera is located so that it only detects the shopping carts (3) that are put away inside of the collection point (1).

*Sub A1*

5. A system according to one of claims 1 through 4, characterized in that each shopping cart (3) is provided with an optically determinable individual identification.

6. A system according to one of claims 1 through 5, characterized in that the collection point (1) is provided with an optical signal transmitter (5) that operates in an IR range.

*Sub B2*

7. A system according to claim 6, characterized in that each of the shopping carts (3) is provided with a deflection unit (11, 12) for the light signal (6) coming from the signal transmitter (5) with which to direct the light signal (6) from each of the shopping carts (3) to a next immediate shopping cart (3).

*Sub A2*

8. A system according to claims 6 and 7, characterized in that the detection means include a number of evaluation units (8) attached to the shopping carts (3) that generate the signal to issue the bonus upon receiving a light signal (13) that was received and redirected by the shopping cart (3) in front of them.

~~Sub. B2~~ 9. A system according to claim 8, characterized in that

the evaluation units (8) are designed such that they convey the signal to issue the bonus to a customer-held data medium.

10. A system according to claim 9, characterized in that

the evaluation units (8) are each provided with a read-write device (9) with which the signal to issue the bonus can be stored on a customer card (10).

~~Sub. B2~~ 11. A system according to one of claims 6 through 10, characterized in that

the optical signal transmitter (5) is made up of a common lighting system with a modulated light signal (6).

~~Sub. B2~~ 12. A method to detect and reward the return of shopping carts to collection points provided for them at a shopping center, comprising: upon returning a shopping cart to a collection point, generating a signal to issue a bonus only if the returned shopping cart is stored in a shopping cart stacked row provided in the collection point within a prescribed tolerance.

13. A method according to claim 12, further comprising using a digital image-processing camera to generate the signal to issue a bonus to generate the signal to issue the bonus.

14. A method according to one of claims 12 or 13, further comprising attaching an individualized identification that is optically recognizable to each of the shopping carts.

*Sub B1*  
15. A method according to one of claims 12 through 14, further comprising initiating the generation of the signal to issue the bonus using an optical signal available at the collection point .

*Sub B2*  
16. A method according to claim 15, further comprising modulating the optical signal according to a common lighting system at the collection point.

*Sub A5*  
17. A method according to on of claims 12 through 16, wherein the signal to issue a bonus is stored on a data medium of the customer.